Copenhagen Institute for **Futures** Studies
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ANARCONOMY

Report #3/2009

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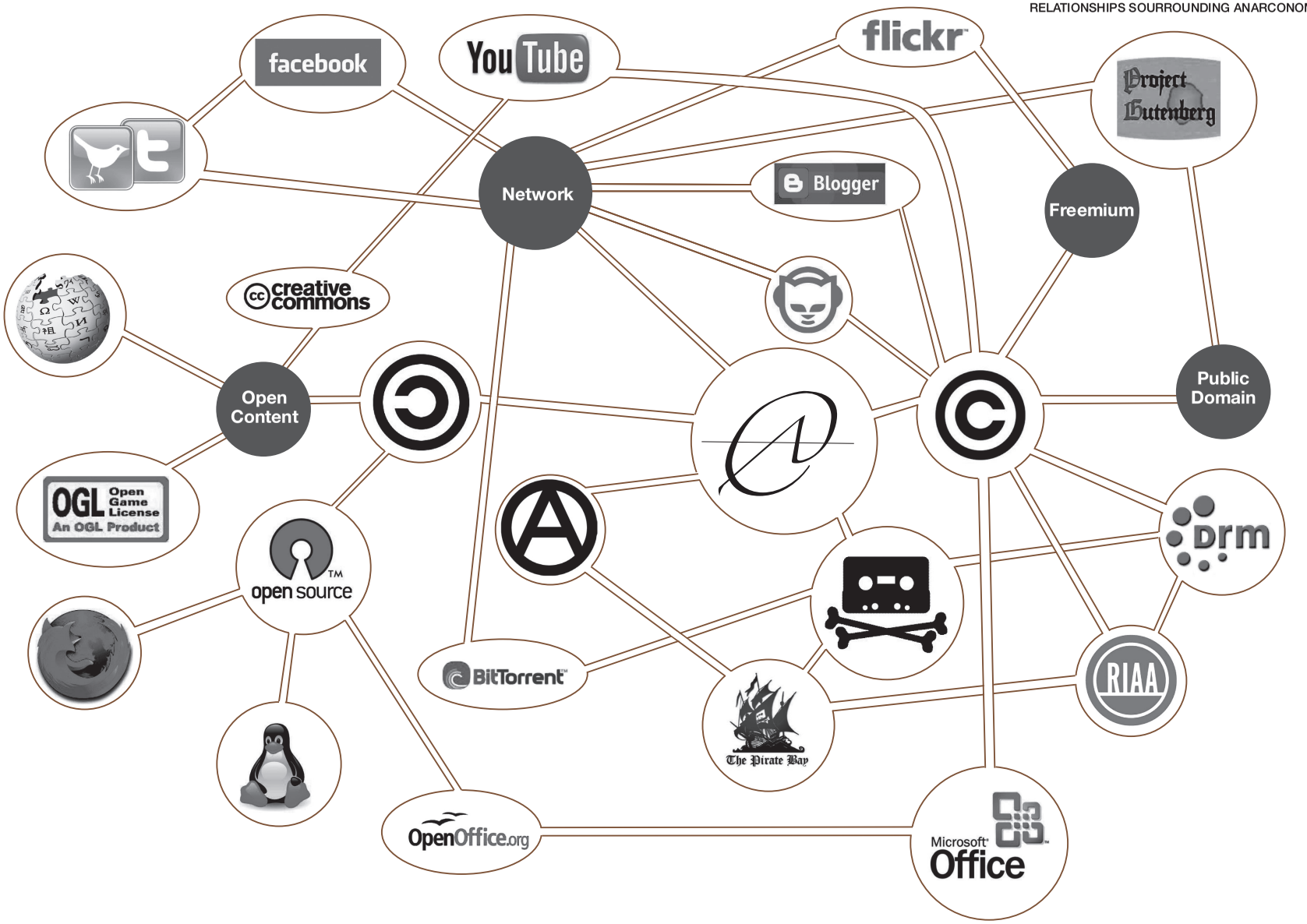
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Foreword

In this report, we deal with *Anarconomy*. *Anarconomy* is a concept that the Copenhagen Institute for Futures Studies uses as a common term for a number of new, and to some, disquieting trends that have arisen in the wake of our society's digitalization and democratization.

Over the past few years, we have witnessed and are witnessing a pronounced flourishing of free content and services on the internet. This free content is created and distributed by the users themselves in voluntary networks according to rather anarchic principles: Wikipedia, open source software, books, music, films, and design, which the creators make freely available, are all examples of this phenomenon. All of this challenges and supplements traditional commercial companies by offering non-commercial alternatives. This is the *anarconomy*. In the future, anarconomy will move from the internet and radically change economy in the physical world.

The report is a result of several years' thinking and research in the field. Several of the ideas in it can be found in less finished form in the Institute's book *Creative Man* (Gyldendal 2004) and in several subsequent articles and seminars.

With this report, the Institute hopes to both deliver a broad presentation of the phenomenon anarconomy and its consequences – and show how these consequences can shape the future. The latter we present in the scenarios *Rebels Versus Cartels* and *The Age of Empowerment*.

The report is organized so that the chapters can be read independently of each other as independent and easily understood texts. Hence, each chapter begins with a short introduction.

Please enjoy and share,
Klaus Æ. Mogensen, project manager

In anarconomy's spirit of free sharing of knowledge, we make this report available under a license from Creative Commons. Hence, you can make copies and make this work available to the general public, but you must give us credit. You can't use it for commercial purposes, and if you make derivative works based on this work, they must be distributed by an identical license to this.

- Anarconomy = Anarchism + Economy
- The network society has many similarities to the anarchic ideal
- Open source, et al., makes things with great user value freely available
- You can give knowledge and ideas away and still keep them
- Free products and services challenge commercial products and services
- In the future, you can only make money on unique solutions and experiences

What is ANARCONOMY?

We are witnessing a pronounced flourishing of free content and services on the internet. This content is created and distributed by the users themselves in voluntary networks according to rather anarchic principles: Wikipedia, open source software, books, music, films and design, which the creators make freely available, are all examples of this phenomenon. All of this challenges and supplements traditional commercial companies by offering non-commercial alternatives. This is the *anarconomy*. In the future, anarconomy will move from the internet and radically change economy in the physical world.

Anarconomy = Anarchism + Economy

Some years ago, while the project manager of this report surfed the internet, he came across a text that he thought was a very good description of the 21st century's network society. An excerpt goes like this:

"In a society developed on these lines, the voluntary associations which already now begin to cover all the fields of human activity would take a still greater extension [...] They would represent an interwoven network, composed of an infinite variety of groups and federations of all sizes and degrees, local, regional, national and international, temporary or more or less permanent – for all possible purposes: production, consumption and exchange, communications [and] the satisfaction of an ever-increasing number of scientific, artistic, literary and sociable needs."

The interesting thing about this text is that it was written one hundred years ago. It isn't meant as a description of our current network society, but as a description of a possible, future society based on the political philosophy of anarchism. The text is from an article in the 1910 edition of *Encyclopædia*

Britannica and is written by Peter Kropotkin, the Russian prince that became the head ideologist of anarchism.

The central tenet of anarchism is that there should not be any central authorities with the power to impose their will and enforce monopolies. Instead, society should be organized according to "free agreements concluded between the various groups". The Russian anarchists in the early 20th century thought it was necessary to forcibly remove existing, powerful authorities (specifically, the Tsarist regime) before anarchism could be implemented. Hence, today we have a caricatured image of anarchists as black-clad men throwing bombs. The Tsarist regime was overthrown during the Russian revolution, but was replaced by an equally powerful and despotic authority, the communist Soviet – in fact a development that Kropotkin had warned against.

The network society has many similarities to the anarchic ideal, which Kropotkin wrote about. The internet is by and large born without central authorities. Nobody owns the internet, and everybody can make websites without asking anybody for permission (except for the organization ICANN, which coordinates the assignment of domain names). The central authority is replaced by a voluntary agreement – the TCP/IP protocol – that anybody who wants to be on the internet must follow. For this reason, it hasn't been necessary to have a violent revolution in order to create room for anarchism on the internet. The internet is inherently anarchic, even if it is doubtful that many of the internet's creators (including the US military research department DARPA) saw themselves as anarchists. We could say that with the internet, an anarchic parallel society has peacefully emerged. This does not mean that everything on the internet is anarchic – there are countless commercial companies and closed websites – but a growing amount of knowledge, products, and services are made available in an anarchic fashion.

Wikipedia is perhaps the best current example of the anarchic philosophy on the internet. Wikipedia is an encyclopedia, but it isn't written by professional encyclopedists or edited by a central editorial staff. Anybody can freely write articles, and anybody can freely edit others' articles, as long as you follow the guidelines for presenting articles. There's no economic reward for contributing, but in return, it doesn't cost anything to use the encyclopedia. When Wikipedia was launched, many said that it would never work. Who would contribute to it without getting paid? Who would use it without any guarantee for the accuracy and veracity of the articles? How would you prevent willful propaganda, vandalism and misinformation? The best answer to these objections is that Wikipedia actually works. At the moment of writing this, the online encyclopedia contains more than 13 million articles in scores of languages, and the veracity and accuracy of the articles are generally good. Apparently, more people are willing to do good than to do bad – actually a rather positive statement about mankind's general goodness. In fact, it is very much the lack of a central authority that prevents those who would do bad to

get the power to enforce it – once again an anarchic principle, which probably works better on the web than in the physical world, where brute squads or lawyers can attack people one at a time.

Another example is open source software like the operating system Linux, the browser Firefox and the office pack OpenOffice, which are fully or partly developed by voluntary, unpaid labour and is made and offered freely to everyone. In these cases, there is some form of central editing, but everyone is free to modify the software as they like and share these improvements with others.

A parallel to open source is *open content*; i.e., knowledge content that is made freely available at no cost. Wikipedia is an example of open content, but the content can also be oriented towards culture or entertainment. Every day YouTube offers hundreds of thousands of new short films freely to its users, who often are also content providers. Gutenberg.org provides access free of charge to more than one hundred thousand books that have been copied or scanned by volunteers. These are all free products and services that compete with commercial products and services. This is where economy comes into the picture. A wide range of new books, comics, movies, music, etc. of high quality has been made freely available by their creators under licenses from Creative Commons (see infobox page 39) or can be read, seen or heard at no cost at the creators' websites.

With open source and open content, things of great utility and value are made freely available to all. Even though they don't cost anything, they aren't worthless – far from it. Wikipedia has utility and value that is at least as great as the online version of Encyclopaedia Britannica, which at the moment of writing costs £49.95 a year for a subscription. Experts consider OpenOffice and Linux to be of comparable quality to the commercial products Microsoft Office and Windows. Classical works by, e.g., William Shakespeare, H.G. Wells and Charles Dickens can be read at no cost on Gutenberg.org at the same time as traditional publishers try to sell them for money, either in print or as e-books. We are increasingly getting a knowledge economy, where more and more valuable knowledge content becomes free.

Apples and ideas

Liberal economic theory is based on the idea of the distribution of products and services, where the price is determined in a balance between supply and demand. The larger the supply, the lower the price should be, and the greater the demand, the higher the price should be. Adam Smith described this balance as an invisible hand controlling the market. However, this invisible hand doesn't always work in practice, since it is possible for producers with a monopoly, based on patent, copyright or sole access to natural resources to artificially limit the supply and achieve unnaturally high prices.

OPEN SOURCE

Open source is an alternative to software covered by intellectual property rights. Software distributed by open source protocols may be copied, used and changed without limitations. If you improve on an open source program and choose to distribute the changed program, you are obligated to distribute the improved program by the open source protocols; i.e., others may use the program without limitations. The precise definition of the open source license can be found here: http://opensource.orgdocsdefinition.php.

In 1985, the Free Software Foundation (FSF) was founded to support the development of free programs. In 1991, the first version of the operating system Linux was released. Linux is open source and freely available.

There's a wide selection of freely available open source software, e.g., the advanced office pack OpenOffice, which is comparable to and largely compatible with the commercial Microsoft Office. Firefox is a popular browser, Thunderbird a mail program, Nvu a comprehensive website editor, and Gimp an advanced image editor. Many developing countries choose to use open source software because they can't afford to pay for commercial software.

OPEN CONTENT

Where open source is about free use and derivative treatment of source code, open content is about free use and derivative treatment of text and media content. In others words, the purpose of open content is the same as for open source, namely to make text and media content more widely available. Typical examples of open content are articles, textbooks, reference material and documentation, but it can also be images, sound and video. The probably best-known example of open content is the online encyclopedia Wikipedia.

The right to use open content is defined in a license that specifies rights and obligations for how the content may be used, copied, and treated, and whether – and how – it can be used for commercial purposes. The open content license also includes the obligation to return derivative content to the license owners.

If the price of a product or service should be lower, the larger its supply should be, but what happens if the supply is limitless. According to economic theory, this must mean that the price should fall to nothing – the product or service must become free. This is the core of anarconomy. Knowledge products in practice *are* in limitless supply. Unlike physical products, you can give knowledge away and still keep it. You *can* have your cake and eat it, too. The Irish playwright George Bernard Shaw (1856-1950) expressed it quite well:

"If you have an apple and I have an apple and we exchange these apples then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas."

Once a piece of knowledge – or a knowledge product in a broader sense – has been digitized, it costs practically nothing to make and distribute more copies of it, just a bit of bandwidth and disk space. This is true for information, software and entertainment. Traditionally, we have become used to paying money – often quite a lot of money – for that sort of thing, because the expenses in developing the products must be covered through sales. But, if the development of knowledge products can happen through sponsorship or voluntary, unpaid labour, there is no reason they should cost anything – and they don't, if they are released as open source or open content.

Imagine a lottery with a hundred thousand lottery tickets costing ten euros apiece, where all contestants win a grand prize of one million euros. It wouldn't be hard to sell those lottery tickets, would it? In fact, that's how Wikipedia and open source work. If one hundred thousand people each put ten hours' work into developing a knowledge product, they all get the value of a million hours of work – about five hundred man-years. And, so do all other people in the world, if the result is made freely available. It isn't necessarily blue-eyed altruism that drives people to contribute with unpaid labour; it can just as well be the expectation of getting your efforts paid back several thousand times. Everybody wants Wikipedia, but most also know that this requires that quite a lot of people keep contributing to it. The majority can get a free ride, but some must do the hard work. Enough take that responsibility on themselves to make Wikipedia – and many other examples of open content and open source – work. It is charity that they get something from themselves, in the shape of content, self-satisfaction and perhaps some status.

Traditional economic theory is also based on the idea of *exclusive value*: the more rare a thing is, the more it is worth. It can be a quality in itself to be the only one that owns something, whether it is a piece of original art or a unique jewel. However, many modern products have *inclusive value* – the more that have them, the more they are worth. An e-mail account isn't worth much if you're the only one in the world to have one. A social network is worth more, the more that are part of it. A word processor is worth more, the more other people have it (or something compatible with it). This means that it is in the

interest of all owners to get more owners – and you do that best by giving it away. Apples are worth more if they are rare – ideas are worth more if many share them.

Herein lies an economic paradox. If you at no cost can get more and more things of real value – perhaps even of greater value as more people own it – we will create a growing gap between the value of money and the value of things. You can achieve a growth in *experienced* wealth without having any growth in *economic* wealth. If you know where to look – and this isn't hard to learn – you can even today satisfy all imaginable scientific, artistic, literary and sociable needs without spending a cent, and the growth of free content is currently explosive. This challenges commercial creators of similar content.

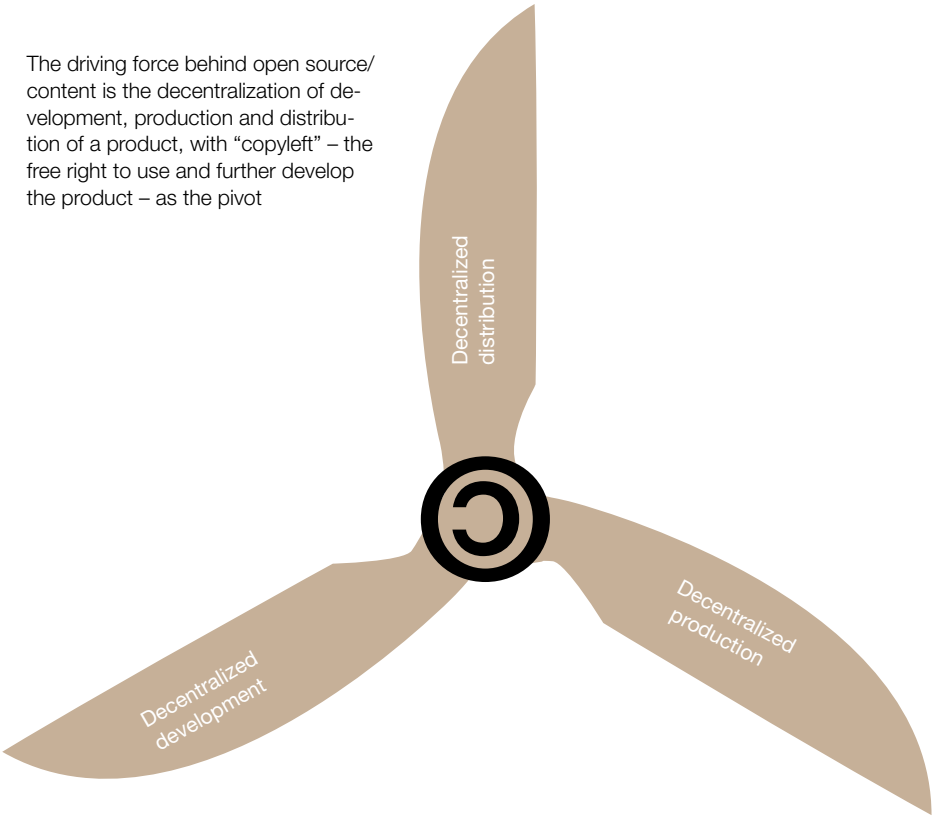
The free versus the commercial

The quality requirements on commercial products are heightened when the volume of free quality products is increasing. Why pay for something of possibly questionable quality when there are free alternatives? Free products keep commercial producers on their toes – they constantly need to be one step ahead. In return, free alternatives can't afford to lag too far behind commercial products, because then they cease to be real alternatives. This mutual challenge is a great advantage for the users, who increasingly are given a choice between solid free products and commercial products that – perhaps – are a little bit better or sharper. Sharpness may be an area where commercial producers can have an edge. Open source and open content without central management can be very good at adding and expanding, but far less suited to cutting the fat and streamlining as are commercial creators led from the top. It can also be hard to maintain a unique vision if too many people can get involved in the development.

Commercial companies don't necessarily have to see open source and open content as competitors. Companies can save a lot of money if they can use free products and services, either internally or as part of commercial products or services. For instance, most internet servers in the world are sold with Linux and Apache – both of which are open source software. This makes the servers cheaper and more competitive. There are also many IT people that make a living from installing and servicing open source in companies' computers.

The growth in free content, often developed in networks, is part of the core of anarconomy. Another part is that this content – or knowledge of the existence of and access to it, e.g. in the shape of links – often is distributed in a decentralized fashion. Digital products are copied by users and sent or given by them to other users. This often happens illegally as pirate copying, and

The driving force behind open source/ content is the decentralization of development, production and distribution of a product, with "copyleft" – the free right to use and further develop the product – as the pivot



piracy of content is also a part of anarconomy, albeit a dark part. Few people can claim not having a single pirated disk, film, music file, article or other content. They don't feel that copying something immaterial is the same as stealing something material. After all, you don't take it away from those who already have it, and you're offering something as a favor without requiring payment. The more inveterate pirates often see themselves – with or without cause, truly or falsely – as anarchic rebels rather than as criminals. They don't respect the idea that access to content should be limited and monopolized through intellectual property rights. They 'liberate' the content for the public good without a thought for personal profit, and often with a risk of prosecution by the authorities (as in the case of Pirate Bay). In any case, for good or bad, decentralized distribution is very difficult to control. It is in practice impossible to prevent immaterial piracy, even if you can strike down on selected hard-line pirates. This also means that despotic rulers in non-democratic countries find it increasingly hard to control the media, public debate and keep their citizens ignorant.

Commercial products based on intellectual property rights – copyright, patent and trademark – are thus challenged by this development, in part because there is a growing volume of free alternatives to them, in part because it gets increasingly difficult to prevent illegal copying and distribution of them. This leads to a dilemma. One of the points of intellectual property rights is to stimulate people and companies to develop new ideas and create innovative products, because they can achieve a monopoly on using the ideas and selling the products. If intellectual property rights can't ensure such a (potentially) profitable monopoly, what will then stimulate original thinking?

Intellectual property rights are so central to the modern economy that it can be hard to imagine a world without them. However, it isn't impossible. In fact, we have an example of anarconomy – open, decentralized development and interchange of knowledge products – which has worked well for centuries, namely the universities of the world. Universities have traditionally made their discoveries freely available for all through publication in journals and open access to research reports. This free and open exchange was the very much foundation for the Renaissance's rapid technological and social development after the Middle Ages, where various guilds kept their knowledge secret from outsiders. The universities were (and are) financed by nations and rich patrons who could see an advantage in the development of new knowledge – not unlike the way much free content on the internet is financed through public support and private sponsorships.

If the burden surrounding the development and distribution of knowledge can be distributed among many, as is the case with Wikipedia and Gutenberg.org, there isn't the same need for economic compensation for the work as there is if a single person or company handles it. Hence, it is to some extent possible to leave the development of new knowledge and entertainment to unpaid volunteers that aren't dependent on economic compensation. Some call this *crowdsourcing*. One example is Einstein@home, where about a million private citizens through distributed computing voluntarily make their computer power available for finding signs of gravity waves in data from astronomical instruments. In this way they help solve a task, which would take the world's fastest computer centuries to complete.

In a future without intellectual property rights, professionals must increasingly make a living on unique solutions and experiences – things that can't easily be copied or mass-produced. Even today we see many examples of musicians that permit free download of their music in order to entice more people to come to their concerts. Some trends suggest that this may be a valid business model – while the sale of mass-produced music has fallen in recent years, the amount of money spent on concerts has increased massively. Another example of a transition from products to services is the big online computer games that make more money on monthly subscription fees than on selling the program – often, the program can be downloaded free of cost.

It is as yet uncertain what will happen in the future. One of the great schisms here in the early 21st century is whether intellectual property rights will be tightened or lightened. We examine this in more detail in chapter 4: *Anarconomy right now*. No matter what the outcome of the schism will be, the amount of open, free content will undoubtedly grow. How you earn money in such a word we cover in chapter 3: *Business models under anarconomy*. In the near future, the free economy – anarconomy – will move out of the internet into the physical world, so that an increasing range of physical products can be produced almost free of cost. Then, things will really get exciting! You can read more about this in our next chapter, *Two scenarios for 2025*.

COMMERCIAL PRODUCT	OPEN CONTENT/SOURCE
Based on copyright/patent	Based on 'copyleft'
Costs money	Free of cost
Creators maintains control of content	Creators let go of control of content
Professional, paid labor	Voluntary, unpaid labor
Centralized production and distribution	Decentralized production and distribution
Updated at intervals	Updated continuously
Guaranties can be given for functionality/safety	No guaranties given for functionality/safety
Good at streamlining	Mediocre at streamlining
Mediocre at adding	Good at adding

INTELLECTUAL PROPERTY

Intellectual property (IP) is a number of distinct types of legal monopolies over creations of the mind, both artistic and commercial, and the corresponding fields of law. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary, and artistic works; ideas, discoveries and inventions; and words, phrases, symbols, and designs. Common types of intellectual property include copyrights, trademarks, patents, industrial design rights and trade secrets in some jurisdictions.

Intellectual property rights (IPR) are often based on international conventions and agreements. The oldest and most important of there are the Paris Convention from 1883 and the Berne Convention from 1886. These – as well as a range of later conventions – are today administered by WIPO, the World Intellectual Property Organization. The Paris Convention regulates the protection of trademarks, patents and industrial designs. The Berne Convention deals with copyright.

PUBLIC DOMAIN

When a work is in public domain, it isn't protected by copyright, which means that everybody in principle can use it as they want to. It is thus publicly available, and the only limitation in its use is that those that make use of the work can't "shut it in" and claim copyright over it, unless they have made an independent creative effort. They then can only claim copyright of this effort, not for the original content, which was in public domain.

- We have drawn up two scenarios for 2025 to illustrate what ways the development of the anarconomy may go
- In the scenario *Rebels Versus Cartels* the rules for IPR have been tightened; this makes it easier to live off mass-produced content, but has created a counterculture of 'pirates'
- In the scenario *The Age of Empowerment,* the rules for IPR have been relaxed; this makes it harder to live off mass-produced content, but poor peoples' opportunities have been improved
- In both scenarios, production with 3D printers has become far more common

Two scenarios for 2025

We are witnessing a pronounced flourishing of free content and services on the internet. This content is created and distributed by the users themselves in voluntary networks according to rather anarchic principles: Wikipedia, open source software, books, music, films and design, which the creators make freely available, are all examples of this phenomenon. All of this challenges and supplements traditional commercial companies by offering non-commercial alternatives. This is the *anarconomy*. In the future, anarconomy will move from the internet and radically change economy in the physical world.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I –
I took the one less traveled by,
And that has made all the difference.
Robert Frost, *"The Road Not Taken"*

We are living in a time of radical change. One of the greatest schisms is over the right to immaterial products. On one side of the divide, we have the net utopians (read more in the chapter *Anarconomy right now*), who think that access to all knowledge and cultural products should be open and free of charge. On the other side, we have large groups that make a living off intellectual property rights – record companies, patent holders, artists, etc. – who think that the stimulus to create new knowledge and new cultural products will disappear if you can't get a monopoly on what you create.

The schism often takes the form of an uncompromising battle between opposing interests. The trial against Pirate Bay can be seen as an example of this. However, many maintain that the utopians' dreams can be realized within the framework of intellectual property rights. All knowledge and culture need not be open and free as long as a sufficient amount is. Creative Commons can be seen as a proponent of this view. A non-digital example is *Free Beer*; a type

of beer where the recipe and the label design has been created for free by a Creative Commons license.[1]

Will the way we choose to go be shaped mainly by the combatants or by the reconcilers? The outcome can become very different, depending on whether legislation and public opinion are influenced mainly by the bellicose or conciliatory sides of the debate. In the following, we have outlined two scenarios for the year 2025, which illustrate how things may develop if one discourse or the other gains the upper hand. The scenarios represent extremes of the possible range of results and can hence seem somewhat caricatured; however, all the elements in them have roots in present-day reality.

The scenario *Rebels Versus Cartels* presents a possible future where proponents of restrictive intellectual property laws stand unyielding against proponents of free knowledge and culture, and where legislation mainly is based on protection of traditional intellectual property rights, often at the expense of the free exchange of knowledge and culture: *Owning* over *Sharing*.

The scenario *The Age of Empowerment* in return presents a possible future where the rights holders and the 'copyfighters' have reached a common understanding, and where legislation mainly is based on protection of the free exchange of knowledge and culture, often at the expense of traditional intellectual property rights: *Sharing* over *Owning*.

Scenario 1: Rebels Versus Cartels

In 2025, the regular internet has become highly regulated. You can be anonymous as long as you limit yourself to seeing or downloading content on the web. You can't upload anything or even send an e-mail or write a comment in a forum, without being registered with a legal identity. You must be accountable for your actions. All content is marked with a code that makes it possible to identify the originator. This is necessary, say legislators, in order to prevent distribution of illegal content such as child porn and pirated music. At the same time, it means that children in social forums can be certain that they actually chat with other children. Regulation has also done a lot to reduce the spread of computer viruses and illegal spam.

Websites are often closed on account of charges of illegal content. The charges aren't always true. For instance, large companies often try to close websites that criticize their products or business methods. There are also examples of political sites being closed during elections. This sort of abuse of the opportu-

1 *www.freebeer.org*

nity to close websites is of course lamentable, but it is seen as a small price to pay in the struggle against illegal content.

In order to prevent piracy outside of the internet, all playback units, from music players and video recorders to mobile phones and electronic bookreaders, are legally required to be equipped with hardware that prevents copyrighted material from being played on other units than the one they were bought for. For example, all TV programs are marked with a digital 'flag' that identifies the unit it is recorded on, and all other legal players must respect this flag and refuse to play a copy.

These initiatives haven't complete prevented piracy. Some distribute copies on the web, hoping not to get caught, and others hack their hardware, enabling them to make and play bootleg copies. Hence, to further discourage piracy, laws have been introduced that make it possible to strike down hard on perpetrators. If a person is charged more than twice with violating copyright, said person's access to the internet would be cut off – he or she can no longer create a profile. At the same time, the punishment for piracy is set at a level that fully equates the crime, with jail time and million-euro fines.

In the spirit of free enterprise, it is now possible for companies to buy priority on the internet. This means that the internet providers move traffic to and from these companies' website to the front of the queue, and non-commercial websites must wait until there is a gap in the traffic on the digital superhighway, which has been equipped with a fast lane that you have to pay to use.

Internet providers generally offer unlimited download rather cheaply, but upload is expensive. If you want to put more on the web than text and a few holiday photos, it must be for commercial purposes, the argument goes, and then you should be able to pay for it.

There is a decent selection of open source software on the internet, but it has become limited by the requirement that all the contributors' additions and modifications must be tagged with an identification of the contributor. In addition, a lot of open source software is held back by charges of breaking commercial patents. Until the charges have been cleared in court – a process that can take years – it is illegal to distribute and use the software.

In recent years, robots have taken over a lot of physical labour from washing floors and preparing fast food to driving the bus and performing routine surgery. Similarly, computers have taken over a lot of routine knowledge work in offices and research institutions, freeing a lot of labour for other tasks. Because of the growing number of elderly, many have been able to get jobs in eldercare, but there's also a need for creative and innovative labour in entertainment, design, and biotechnology. These industries are dominated by big corporations, since small, creative companies often fall victim to law-

suits about plagiarism and violations of intellectual property rights, in part, because the rules are complicated and often unclear. In fact, lawyers are the trade that has experienced the highest growth in the last decades.

In general, large corporations have grown at the expense of small and medium enterprises. It is difficult for independent businessmen and small firms to handle the increasingly complicated regulations and legal requirements that the authorities lay on companies to protect the safety of employees and customers. Hence, most people work in large offices or in branch offices of widely branching corporations.

There is a lot of surveillance in our society, but it is to protect the citizens and create justice – 'Big Mother' rather than 'Big Brother'. Surveillance of economic transactions protects from fraud and money laundering; surveillance of cars makes traffic glide smoother, ensures fair road pricing, and protects from car theft; and, surveillance of public roads and spaces protects the population from muggings, terrorism and vandalism. In airports and train stations, all passengers are scanned and matched against a database of suspected terrorists. This seems to work; as we haven't had any major terrorist attacks during the last fifteen years.

There are some who worry about the extensive surveillance and speak of privacy and the risk of misuse of surveillance data. However, the majority is happy and often a bit suspicious of those that protest – 'if they have something against surveillance, they must have something to hide,' goes the argument.

As a reaction against the increasingly closed and watched internet, a decentralized underground network has arisen, popularly called the PirateNet. The PirateNet is based on wireless ad-hoc networks without central servers. Instead, inquiries are sent from computer to computer until a link is established between sender and receiver with built-in delay tolerance based on protocols developed by NASA. It is quite a bit slower than the established internet, and because data is stored in a decentralized fashion, a lot of redundancy is required. In return, there's no control or censoring of the content. Because the entire network is decentralized and mobile, it is impossible to close it down, partly or fully.

There are few commercial interests on the PirateNet, since it is unsuited for money transfers. In return, there are quite a lot of free products and services, which are created in an anarchic fashion by networks of users. There is also a lot of bootlegged content put up by anonymous users. It is the access to open and free content that drives PirateNet.

PirateNet isn't well liked by the authorities or the media and software corporations, but there's not a lot they can do to stop it. In fact, campaigns against PirateNet strongly contribute to creating greater interest in it. When normal

internet users are banned form the regular internet because of charges of abuse, they are thrown into the arms of the PirateNet – the only alternative they have left. Legally produced computers are purpose-built not to be able to access the PirateNet, but it hasn't proven difficult to hack them.

An increasingly popular alternative to hacking computers – where you can't be safe from possible hidden surveillance features – is to use open source computers with polymer-based electronics. These computers can be produced cheaply on the right sort of 3D printer (see info box page 19) after you've downloaded the specifications from the PirateNet. The printers, which are open source themselves, can even print copies of themselves, so if you know someone with an open source computer and printer, you can easily get a set of your own. The only cost is the raw materials, which can be made from different kinds of recycled plastic. The polymer-based, printed open source computers aren't as efficient as commercial computers, but they can do the basics.

A lot of the people that use the PirateNet are involved in active resistance to the surveillance society. This often takes the form of sabotage against public surveillance cameras. This costs society money. Together with recurring attempt to sabotage the general internet, this casts a bad light on the more serious political and ethical resistance against surveillance and the strict rules for intellectual property. It becomes too easy to dismiss opponents as destructive rebels.

Scenario 2: The Age of Empowerment

In spite of hard lobbying to make the internet more closed and 'safer', it is still very open in 2025. The free exchange of knowledge and ideas has gained precedence over a hopeless struggle to prevent the distribution of illegal content. China's failed attempts to control the internet stand as a shining example of how bad that sort of thing can go.

Most everybody in the world has access to the internet at home and at work, and most cities offer free, wireless internet access at public roads and squares. There are also rich opportunities to get wireless internet access in cafés and libraries. It's not something you think a lot about. A large part of life is lived on the web, and you take for granted that you can always get online.

There are enormous quantities of legal, free content on the web: because it is in public domain, because the individual creators have chosen to make it freely available, or because it has been created in a common, open process by open source principles. It is also easy and fairly risk-free to find pirated material. Almost all mental needs can thus be satisfied without having to pay anything.

3D PRINTERS

3D printers are a relatively new way of producing physical objects. In a 3D printer, an object is built by laying layer upon layer of a material, typically a sort of plastic or cement. In common 3D printers, each layer is about 1/10 of a millimeter thick, so it is possible to built quite precise objects. Until recently, the method (also known as *stereolithography*) has primarily been used to make prototypes of later mass-produced products (*rapid prototyping*), but in recent years, 3D printers have also been used to produce tailor-made products, e.g. cabinets for hearing aids, architectonic models, and physical representations of figures from computer games like *World of Warcraft.*

The big advantage of 3D printers is that all sorts of objects can be made with the same printer, by simply varying input data. There's no cost difference between making a hundred unique products and making a hundred identical products. When first you have the printer, the only cost of making a product is the raw materials the printer uses.

Professional 3D printers are still quite expensive, but there are open source variants that can be built from parts available in typical electronics stores and other suppliers. The best known are Fab@Home (www.fabathome.org) and RepRap (www.reprap.org). In May 2008, RepRap printed a copy of itself – or nearly so, since it couldn't print a copy of the chip that controls it.

However, you can get 3D printers that can print polymer-based electronics today. The British firm Plastic Logic uses such a printer to produce their electronic book reader (a competitor to Amazon's Kindle). This sort of printer can theoretically print a complete and functional copy of itself. In a few years, this will likely happen in practice. If the printer can also produce a laptop computer – and there are good reasons to think this will soon be possible – we will have advanced production equipment capable of reproducing itself.

Some polymer-based 3D printers use, among other things, *electroactive polymers*; i.e., polymers that contract like muscles when electrified. This can be used to produce simple (and in the future, more complex) robots.

Related to 3D printers are other types of digitally controlled production, for example, digital weaves that weave textiles on the basis of computer designs and digital lathes that can cut all sorts of figures from e.g. wood or metal.

Professional content providers have been forced to lower their prices in order to compete with the free alternatives, legal as well as illegal. Many choose to give digitalized content away and earn money instead on unique services and experiences that can't easily be copied. Musicians make money on concerts and promote themselves by giving recorded music and concert recordings away. Writers make money on readings and other personal appearances or by selling personally dedicated books. Hollywood movies are by now primarily commercials for online computer games.

Many artists are supported by donations often in return for minor, personal services. Whereas before only a few rich men were patrons, there now are a billion 'micropatrons' that with small amounts of money support the artists they think deserve it and need it. It has become as natural and easy as applauding a good show.

Commercial software providers offer professional services as a part of the product. You don't buy the software; you subscribe to updates, maintenance and troubleshooting. There's also a wide range of alternative business models, tailored to individual needs (see the chapter *Business models under anarconomy*).

From being a niche, open source and open content have become mainstream. For one thing it is free, for another it is also generally easier to get. There's just a few seconds from searching for something to getting it. Search functions have become very sophisticated, so you are not limited to search for specific things. You can also search for things that resemble something you already know or stand in various degrees of contrast to it.

Commercial companies have generally stopped seeing open source and open content as evils. It is true that the free alternatives challenge commercial companies, but it isn't always bad to be challenged. It keeps you on your toes. Commercial, hierarchical companies can offer something that open source can't: an "edge" and guarantees. A clear and unique vision of a product is better maintained if the person behind the idea can hold the developers in tight rein. A commercial company can also offer guarantees that the product works and be held responsible if it doesn't – something that isn't possible with open source, which isn't backed by a clear economic entity. At the same time, commercial companies can make use of the free products and services and possibly even integrate them with their own.

Far more research than before takes place in free and open frameworks, financed by the authorities or by non-government organizations. The resulting knowledge is given freely to all, so you don't have to pay a fortune to use or build on other people's knowledge or ideas.

Computers and robots are taking over more and more work, particularly of the boring sort. Many small robots for use in the home can be made cheaply

on 3D printers. This, along with a massive debureaucratization of society, has freed a lot of labour for research, development and creative work. In fact, the creative industries are the trade that has experienced the highest growth in the last decades. It has proved unnecessary to hire so many more in the care sector, as was assumed at the beginning of the century. The elderly can manage on their own far longer than before with the right technological aids. In fact, there are almost no truly disabled people anymore. Intelligent prostheses and support braces, controlled by the user's thought, remove physical handicaps, and inexpensive open source drugs have been developed to treat most mental disorders.

The network society has made it easy for people with a common vision to come together and start their own company. Most new creative companies are purely virtual, lacking common physical facilities, and many are 'flash firms'; i.e. companies that aren't meant to last beyond finishing their project. Many people are working in more than one company at a time. It is not uncommon to have a steady job in a large company while being involved in some sort of hobby enterprise with professional ambitions. The distinction between amateur and professional is much more blurred than before.

Many physical products are distributed digitally and produced decentralized by flexible machines. For example, you can get blueprints for a mobile phone on the web and have it printed on a 3D printer in a local store, or you can bring your own clothing design in digital form and get it weaved on a digital weave while you wait. If you have bought a building site, you can rent equipment to print your house in one piece after your own design or a design you have found on the web.[2]

On the digital market place, commercial products, open source and self-designed products are equal. Everything is bits and bytes. There is a smooth transition from purely anarchically produced products and services to purely commercial alternatives – most lies in between.

We call our times *The Age of Empowerment*. Poor people in the western world as well as in the developing countries have free and open access to software and hardware, which in return provides access to huge amounts of knowledge, services and networks. Tools that used to be reserved for the few are now available to all, with interactive expert system that guide your use of them.

Measured by traditional means, global economic growth hasn't been great since 2010, but the growth in *experienced* wealth has been enormous to most. Free products and services don't figure in accounts of national economy, but that doesn't mean they are worthless.

2 *See e.g. www.contourcrafting.org*

Free, intelligent translation software has removed practically all language barriers. It is impossible for dictatorships to keep their populations ignorant about what's really going on, and the opportunity for being heard on a national or international platform has been laid in the hands of everyone.

SCENARIO COMPARISON

	REBELS VERSUS CARTELS	THE AGE OF EMPOWERMENT
INTELLECTUAL PROPERTY RIGHTS	Ownership is enforced with a hard hand – piracy cannot be tolerated	Ownership is enforced with an soft hand – piracy cannot be prevented, anyway
THE COLLECTIVE VERSUS THE INDIVIDUAL	Collective security, individual right to knowledge and culture	Individual freedom, collective right to knowledge and culture
INTERNET	Schism between a closed, watched and commercial internet and an anarchic, decentralized PirateNet	A wide and open internet with easy access for all
OPEN SOURCE, OPEN CONTENT	Limited extent on the closed web; standard on PirateNet	Has become mainstream
COMMERCIAL, DIGITAL PRODUCTS	Are mainstream	Are primarily free add-ons to unique services and products
3D PRINTING	Primarily non-commercial via the PirateNet	Common in shops and many homes
DIGITAL RIGHTS MANAGEMENT	Present in all commercial products	Is very uncommon
SPIRIT OF THE TIMES	Polarization, regulation, protection, centralization	Equalization, debureaucratization, autonomy, decentralization
WORK	Dominated by big corporation; only a few free agents	Free agents and network companies supplement and challenge big corporations

- Anarconomy challenges and undermines current business models
- We will see new business models emerge instead
- Companies can become competitive through using free open source, etc.
- You can give your product away and instead make money on service, advertisements, and more
- *Freemium* is a very commonly used business model among IT companies
- We need a thorough revision of economic thought that includes anarconomy

Business models under anarconomy

We are witnessing a pronounced flourishing of free content and services on the internet. This content is created and distributed by the users themselves in voluntary networks according to rather anarchic principles: Wikipedia, open source software, books, music, films and design, which the creators make freely available, are all examples of this phenomenon. All of this challenges and supplements traditional commercial companies by offering non-commercial alternatives. This is the *anarconomy*. In the future, anarconomy will move from the internet and radically change economy in the physical world.

A global conversation

The internet's opportunities for combining the perfect market with all forms of self-organization will cause anarconomy to gain speed in the coming years. *The Cluetrain Manifesto*[3] with its 95 theses about the new internet economy pointed towards this already in 1999:

"A powerful global conversation has begun. Through the Internet, people are discovering and inventing new ways to share relevant knowledge with blinding speed. As a direct result, markets are getting smarter—and getting smarter faster than most companies."

The anarconomy demands a new economic playbook. The logic challenges not only the traditional monopolies; it challenges the company itself as a value-creating entity. The logic challenges the hierarchical organization structure and traditional price formation. What used to cost fortunes will be free in the future.

3 *Rick Levine et al:* The Cluetrain Manifesto*, 1999*

Companies that:
- are hierarchically organized
- charge money for products
- charge money for services
- desire to keep a monopoly

will face serious changes. Many will die. Some will change and adapt their business models, and most will argue that anarconomy is either unfair or illegal.[4]

Anarconomy challenges and undermines current business models

- *Anarconomy challenges traditional monopolies based on legislation, immaterial rights and technology.* National legislation can be circumvented by sourcing things from countries with less regulation. This challenges a pharmaceutical monopoly, for example. The opportunity for all to, at essentially no cost, copy, share and distribute digitalized products covered by intellectual property rights makes it increasingly hard to protect these rights. In the future, individuals and small companies will get access to more of the technology that used to be reserved for use by big companies: small and cheap computers, printers, scanners, etc., as well as a lot of other production equipment for layout, energy production or other desktop-sized production.

- *Anarconomy challenges the company as an entity.* The market is increasingly an alternative to companies.[5] An entrepreneur needs not hire people for his firm. He can buy the services on the market from free agents or other companies instead. In the traditional economy, there are many advantages in having work done inside a company (lower transactions costs, for example). There are costs associated with seeking information, negotiating and making contracts all the time. It also costs time and money to maintain control and guarantee services in a market. On top of this come economies of scale and improved secrecy and loyalty within the company. However, in a developed internet economy, a lot of things can, with advantage, be done through the market. Companies have to become more open if they want to cooperate with customers and partners. Increased transparency

4 *Such is the opinion of Sonic Youth's bass player, Kim Gordon, who argued that Radiohead, by putting their album* In Rainbows *up for free download "did a marketing ploy by themselves and then got someone else to put it out. It seemed really community-oriented, but it wasn't catered towards their musician brothers and sisters, who don't sell as many records as them. It makes everyone else look bad for not offering their music for whatever." (www.tinyurl.dk/8758)*

5 *Ronald Coase, "The Nature of the Firm", Economica 386-405, 1937*

and access to more registrations on the internet makes it easier to see who your potential partners are and establish informal partnerships and networks on the web. It also becomes easier to establish virtual organizations and 'flash firms' – firms that only exist as long as a project lasts.

- *Anarconomy challenges hierarchies.* Networks grow up that replace old, hierarchical organization principles. Automation of routine work contributes to this because work requirements shift towards creativity, cooperation and building relationships – tasks for which networks are superior to hierarchies.

- *Anarconomy challenges traditional models for price formation.* Things that used to be expensive become free. Things that used to be free or for which it wasn't possible to evaluate and trade, get a price tag. For example, comprehensive data about each individual consumer based on gaining their attention, commitment and participation, or services that weren't possible to price before because they were too expensive or complex to produce compared to their potential value are now possible.

Business consequences

Will the opportunities for making money and do commercial business be impaired in the future increasingly characterized by anarconomy? How will it be possible to make money? What are the inducements for creating value if more get free access, if there are fewer advantages in establishing big companies and hiring people, and if it becomes increasingly hard to charge money for your services because there are some that for various reasons are willing to offer them for free (see Motivation Barometer page 40)?

New business models will crop up because the money we spend today on music, phones or software can be used for other products and instead (concerts and restaurants, for example). The digital and the mass produced become free, making unique products and experiences worth more.

The trend towards *free* has several causes. For one, the cost of digital production falls all the time, and this means that knowledge content becomes cheaper to produce. This is true for all sorts of information, and for services as well as products. Knowledge and information on a digital basis can be copied, shared and distributed at practically no cost. The calculation capacity, network capacity and storage capacity of computers is doubled in less than two years. It becomes easier to price discriminate between various groups. It becomes easier to break your product up into segments and give some away while you charge money for the rest. While digitalization and networks make

a range of services and activities cheaper or free, they become available to more, and the market expands. Things that used to be economically infeasible now become possible. Cheaper digital tools makes it increasingly easy to establish an enterprise (commercial or non-commercial) and create social innovations based on anarconomy.

Second, the developments in digital and media technology provide better opportunities for making money in more ways than before. It can be through the sale of services or add-on products to customers. This could also be achieved by letting the customer give something other than money in return. For example, the customer could give personal attention or data that can be used in advertisements, by selling advertisement space or customer data to third parties.

Products can be made available for free (*Freeconomics*) if the users deliver other services in return. Users could communicate the message to friends or participate in surveys of opinions and ideas: services that the supplier can use for innovation or optimization of his business. There are many ways to create value by involving users in product development, marketing, quality assurance, production and delivery of services – in short, the entire value chain.

We also often see a company offer an early version of a product for free in expectation of getting feedback that makes the final, commercial product better. In December 2008, Microsoft thus made it possible to download a free beta version of their upcoming operating system Windows 7.

A third reason why an increasing number of products and services become free is that there are people willing to create value without getting paid for it, as per the Copenhagen Institute for Futures Studies' book *Creative Man*.[6]

In the following, we present different factors that characterize the development, and we take a look at business models that make it possible to earn money – even by giving your product away.

90,000 researchers can't be wrong

There is a wide range of non-commercial products and services on the internet that have been created by many users in common. Such products and services include open source software like OpenOffice and Linux and open content like Wikipedia. These are often based on licenses where the user-created content can't be used commercially, even through income from advertisement.

6 *Can be downloaded for free at www.cifs.dk/cm*

This is a clear parallel to voluntary work in private associations. While most traditional voluntary work competes only to a limited extent with commercial companies, a lot of what is developed in the wiki economy is alternatives to commercial products. This is true for Wikipedia, Linux, OpenOffice, and many more.

There are significant economies of scale in the wiki economy. It is often enough that 1 in a 100 or 1000 users choose to be productive and deliver content. The reward isn't money, but it can be social recognition, something to put on the CV, development of competencies, the feeling of having done something good, or simply the satisfaction of solving an interesting problem or challenge (see the Motivation Barometer, page 40).

Wikipedia has considered using its brand and large audience to gain advertising income for further development, but it has chosen not to in fear of reducing the commitment of the volunteers. In many cases, money doesn't work as inducement – sometimes on the contrary. It turns out that you get fewer blood donors if you offer money for blood.[7]

However, the question of commercialism or voluntarism isn't necessarily one of either/or. The sponsorship of voluntary work or publicly funded work is growing, and commercial companies increasingly focus on social responsibility. Hence, it might well be a part of a company's Corporate Social Responsibility policy to sponsor Creative Commons and others in the wiki economy. Cooperation and partnerships between actors in business, civil society and the public are getting increasingly common, and the reluctance to do so is decreasing. It is okay to have commercial partners as long as they don't get too much power. Professionalism and ethical rules help ensure this.

Open source is an important contributor to future innovation. Companies must find the right balance between what is strictly necessary to patent and what it may be advantageous to release as open source in order to become involved in creative exchange with others.

InnoCentive is a so-called Ideagora, created with an eye to gather experts around unsolved problems in research and development.[8] 90,000 researchers from 175 countries are registered here. It is used by companies like Procter & Gamble, Boeing and Ely Lilly. There are problems looking for a solution, and there are solutions looking for a problem. Many companies only use a fraction of the patents they take in the company itself. Through online marketplaces like yet2.com, patents can be made available for use by others.

7 *See e.g. www.tinyurl.dk/9087*
8 *www.innocentive.com*

The more, the merrier

Peer-to-peer networks (see info box page 30), of which one of the best known is the service Napster, which shared music files openly until it was closed in 2001, have created competition for the classical B2B and B2C business models.

Focusing on peer-to-peer (P2P) production provides good opportunities for involving consumers and partners in developing solutions, drawing on talents outside the company, and gaining close connection with customers and partners. IBM cooperates with Linux's peer-to-peer producers and offers grants at a value of several hundred million dollars in the shape of software and other resources.

A website based on extensive P2P activity can just as easily be established on a commercial as a non-commercial basis. If it can be done cheaper and better on a commercial basis, it likely will. We can also expect to see non-commercial alternatives to even more commercial services, even services outside of IT and knowledge sharing. We already have P2P banks (see info box about ZOPA, page 29) and wiki-based aid to real estate trading.[9] Freecycle.org is a website where you can give things away that you no longer need and get other things in return.

P2P activity is generally seen as an alternative to commercial business. However, it can also be a platform that brings your company into close dialogue with your customers and from where you can sell other services. Lego combines mass production with P2P, where the users become part of virtual design teams that invent and exchange new Lego models. This takes place in a wide range of Lego Clubs around the world, where Lego fans meet, both physically and online.

Sponsorship of an open source or P2P activity can also contribute to improving a company's image or goodwill. For example, you can permit your employees to spend two work hours a month on contributing to Creative commons activities in the way that some companies today allow spending work hours on traditional charity work.

There are also other sources of additional turnover. Imbedded free open source software can increase the value of your product, whether it's a PC, a mobile phone or a camera. Companies can make money from advising companies and customers about how they can get the optimal yield from open source programs by adding new functions, for example. You can create and sell tools and production equipment to private persons that wish to be creative. Lulu.com is a website that helps amateurs and professionals to edit, layout, publish, and market books and other artistic productions.

9 *www.realestatewiki.com*

ZOPA - ZONE OF POSSIBLE AGREEMENT

ZOPA is one of the oldest financial marketplaces based on peer-to-peer (P2P) principles. At ZOPA, you can borrow and lend money outside of the traditional banking system. ZOPA is experiencing considerable growth, and the turnover is about £30 million. In a future where banks are more strictly regulated and where the trust in the traditional financial system has been damaged, P2P solution could have a very bright future.

ZOPA's business model is based on fees. If you wish to take a loan through ZOPA, you pay a fee of about £120. Lenders pay a fee of 1% of the money lent. It is debatable whether such a fee structure is 100% anarconomy, but a range of venture capital firms back ZOPA.

ZOPA matches loan-taker and lender, and this creates a feeling of a more personal relationship. Moreover, the interest rate is set in agreements between loan-taker and lender. At ZOPA and similar sites, lenders can choose to lend to individuals or to pools of loan-takers.

ZOPA's role is to organize the matching of loan-taker and lender and to handle the administrative side. If a loan-taker doesn't pay on time, ZOPA uses the same process as regular banks. Several similar sites – e.g. kiva.org – combine P2P lending with Third-World microloans.

A user of ZOPA writes on the page: "I will be using this money to contribute to a very special event. I have been with my girlfriend for 11 years now, and it's time to tie the knot. I will be taking her to Paris to propose and hopefully she'll say yes!"

PEER-TO-PEER

Peer-to-Peer (P2P) is a general term for the exchange of data, products or services between equal partners instead of from a central supplier to a number of subordinate receivers. Normally, P2P requires all participants to follow the same set of rules or protocols.

P2P networks are networks of computers that are connected without a central server. The term can also cover decentralized file sharing using. Napster or BitTorrent, for example. There are also protocols for producing P2P wikis, where the information isn't saved on a central computer, but distributed on the user's computers.

Even the internet itself works according to the P2P principle, since it doesn't consist of a single, central server, but of numerous servers connected through the TCP/IP protocol. The international network of universities and their mutual exchange of knowledge can be seen as another example.

See also the info box page 29 about the P2P bank ZOPA.

COPYLEFT

Copyleft is a term used for a range of free software and open source licenses for the use of copyrighted works. These licenses are characterized by a requirement that works derived from a work with such a license should, if released, be published under the same license. Copyleft is often symbolized by an inverted copyright symbol.

Where intellectual property right usually is used to prevent or limit the possibility for legally creating and distributing copies of a work, the purpose of copyleft is to ensure that everybody who receives a work has the right to use, change and redistribute it – but also that the new, derived works will be available under the same license as the original.

The first example of copyleft is accredited to Richard Stallman in connection with his GPL: GNU General Public License. About 1985, he added a new sentence: *Copyleft – all rights reversed*, (in contrast to *Copyright – all rights reserved*).

Self-service and wiki-like P2P solutions can reduce overall expenses. A company can reduce expenses by using open source software. This is of particular interest for newly started companies that need to keep expenses down during the start-up phase. The access to free business software, services and networks makes it easier to start new companies and establish yourself on your own.

A stranger is an employee you haven't hired yet

The networks that support large parts of anarconomy also change our way of doing HR. These networks make for an excellent recruitment platform for companies. Besides, network participants that the companies seek to recruit will already have excellent networking competencies in their special fields.

Companies are challenged in part because the anarconomy networks lack traditional commercial focus. The networks might even have been started to challenge big corporations, so it may require special efforts by the companies to draw directly on the networks. It can thus be advantageous for companies to develop a better understanding of the informal networks (blogs, wikis, P2P communities, etc.) that refer to – and compete with – their products. A de-commercialized recruitment process follows a bottom-up logic. The company's HR department must hence enter into an honest, interest-based dialogue with the network before it can hope to hire a new employee.

For the HR departments, this means that the concept of employees must be expanded considerably. With anarconomy, we can speak of an "employee horde," which is much less clearly defined, less loyal, and perhaps even hostile towards companies. However, this less clearly defined employee horde presumably holds a large part of companies' future labour.

As an aside to HR, we can mention that the networking abilities that are so central to succeed in an anarconomy world are unevenly distributed. The people who find it easy to establish and maintain their networks will experience anarconomy as exciting and challenging, while the people who find it harder to network might easily drown.

Attention is the new coinage

Google has made it a good business to give its products away. It doesn't cost anything to use Google's search engine. Instead, Google makes money on the advertisement links on the side and the promoted links at the top of the

results pages. In a similar fashion, Hotmail and the internet jukebox Spotify are free to use as they are financed by commercials[10].

Advertisements are increasingly tied to social media like Facebook, MySpace and Flickr, where the users identify themselves and their circles of friends. Brands like Harry Potter, Coca-Cola and Greenpeace can, like people, have their own profiles and be part of these circles of friends. The opinions and purchasing behaviors of the individual can be communicated to the circle. You can also get invitations to games where brands pop up or teasers from new movies are shown. Payment to the social media is tied to the number of contacts, blog entries and remarks on a user's profile. It is best to get hold of opinion makers.

Future models of payment must be able to distinguish between traffic from opinion makers and fans – or simple noise in the form of immaterial messages to receivers in the far periphery of the circle of friends. There is a tendency to be more noise and immaterial messages in the social networks, because people don't delete former friends and don't reject requests from unimportant acquaintances. They also tend write short and unimportant messages on media like Twitter.

Desire-based payment

A new model of payment that is gaining ground is the donation model. Here, users and network members donate a sum of money to the supplier of a service. The best-known example of this model may be Wikipedia; however, the best know example of a donation crisis, in November 2008, was also Wikipedia.

When Radiohead put up its album *In Rainbows* for free download, fans and customers could donate a sum if they wanted to. There's some uncertainty about what they earned from this, but it is estimated as being more than the total sale of their previous album.

Many individual creators of free content on the net ask users to donate small sums in return. This business model is similar to street performers putting out a hat. The product is given away for free. There's no requirement to pay, but you are well aware that if no one coughs up, the performer won't be back. The difference, however, is that the 'audience' on the internet typically is far larger, but also finds it much easier to be anonymous. It is hard to apply group pressure to the free riders.

10 *www.spotify.com*

Among others, the comic book creator Phil Foglio and the fantasy author Lawrence Watt-Evans take advantage of the possibility of microdonations. Foglio uses the model for his award-winning comic *Girl Genius*, which you can read free of charge three times a week.[11] Watt-Evans uses a slightly different model to make money on books that his publisher isn't interested in. He publishes one chapter at a time on his website,[12] and when his fans have paid a certain sum, he publishes the next chapter. Everybody can read the chapters free of charge once they have been published.

At our request, they provided information as to how much they earn in this manner. They responded that they typically have made US$ 7,500-15,000 a year in this manner. Neither Watt-Evans nor Foglio see the donations as other than a supplement to their income from selling printed books. Foglio doesn't experience that the opportunity to read *Girl Genius* for free online has hurt the sale of the printed collections. On the contrary, this means that more people know the series and hence feel like buying it. Both noted that the financial crisis has hurt the desire to donate.

99% free

Another method of payment has been called Freemium: A basic product is delivered free of charge, while money is made on selling a more advanced premium product or added services. It's about reaching as many users as possible because the marginal costs of servicing an extra user is next to nothing – at least as long as we speak of digitalized services. If you reach enough people, this can be good business as long as just 1% buys the extra services, even if 99% make do with the free basic product. For example, the photo service Flickr is free, while Flickr Pro costs money. Skype is free, but you pay if you call a regular phone, and money is also made on extra services and advertisement.

Freemium isn't necessarily restricted to digital products. Ryan Air's CEO Michael O'Leary has stated that his goal isn't just to provide cheap flights, but free flights in the long run. Today, it costs Ryan US$ 70 to fly a passenger from London to Barcelona, but the cost of the 'naked' ticket is only US$ 20. The rest is gained from payment for extra luggage, onboard sales, advertisement, etc.

Musicians also make use of the freemium model. The Brazilian Banda Calypso lets street musicians copy their music at no cost and sell it themselves before

11 *www.girlgeniusonline.com*
12 *www.watt-evans.com*

concerts in different cities, because that makes more people know their music and buy concert tickets.[13] The band Radiohead gave their album *In Rainbows* away on the internet months before the CD (with better sound quality) hit the streets, and it became their best-selling album ever.[14]

A new economy?

An important feature of anarconomy is that expensive middlemen disappear or are replaced by slimmed-down versions. For example, web portals allow people to find many products in a particular category and easily can compare prices and qualities. The product is increasingly ordered directly from the producer and delivered directly to the customer. When a band sells its music directly to the fans, record companies, importers and shops are cut out of the equation. One the one hand, this means that business models based on being a middleman are eroded. On the other, this means that the producer can make money from offering the product at a much lower price because the middlemen aren't getting their slice of the pie. It also creates closer relations between customer and producer. You don't buy the product from a large, anonymous corporation, but directly from those that have made the effort of creating the product. It is this close relationship that makes customers willing to voluntarily pay for a product they otherwise could have had for free.

Once a product can be digitized, its supply becomes practically infinite, and then, according to common economic thought, the price must drop to near zero. You can keep the supply artificially low and hence the cost up, if you hold a monopoly based on intellectual property rights. This only works if people respect this right. So far, it has turned out to be impossible by technical or legal means to prevent bootlegging, and that will likely not change in the future. On the contrary, there are growing movements like the Pirate Party that desires freer access to copying. You can read more about that in the next chapter.

The trend is clear: All purely digital products will become free, and physical products that can be digitally produced won't cost more than the raw materials. The commercial products of the future will be unique products, services and experiences – and the raw materials from which they are made of – and company/customer relationships.

Even if the enormous and rapidly growing volume of free content and services is free of cost, it doesn't mean it is worthless. We can get the same

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13 Chris Anderson: "Free! Why $0.00 Is the Future of Business", www.wired.com/techbiz/it/magazine/16-03/ff_free (www.tinyurl.dk/8854)

14 http://en.wikipedia.org/wiki/In_rainbows

utility from open source software as from commercial software, and the same enjoyment from free music and movies as from similar commercial ones. This cracks the foundation of traditional economic thought, where there's a clear and well-defined connection between economic growth and growth of wealth. This isn't the case when the wealth consists of free immaterial products or material products that are cheap in spite of sizeable knowledge content. We saw the consequences of a growing gap between real and nominal value recently when the financial market collapsed. We need a thorough revision of economic thought; a revision that includes anarconomy.

- We are undergoing a revolution in online technology
- There is a schism between those that want looser rules for IPR and those that want more restrictive rules
- The Pirate Party and Pirate Bay can be seen as exponents of a larger movement
- The motivations to create free content for the internet goes from pure idealism to pure egoism
- *In the future, you must give up control of your product to maintain control of your market*
- Anarconomy has come to stay

Anarconomy right now

We are witnessing a pronounced flourishing of free content and services on the internet. This content is created and distributed by the users themselves in voluntary networks according to rather anarchic principles: Wikipedia, open source software, books, music, films and design, which the creators make freely available, are all examples of this phenomenon. All of this challenges and supplements traditional commercial companies by offering non-commercial alternatives. This is the *anarconomy*. In the future, anarconomy will move from the internet and radically change economy in the physical world.

A logic for the future

Web-utopianism is the ideology that is the basis for open source, copyleft, the Pirate Party, Usenet, Linux, and the anarconomy. In this chapter, we look at what web utopianism can tell us about anarconomy's logic and show how it affects not just a few secluded nerds on the internet, but also your business and everyday life.

Bernard Gendron, Professor of philosophy at the University of Wisconsin-Milwaukee, has formulated four basic tenets of what he calls *techno-utopianism*. Inspired by these tenets, we have constructed four 'articles of faith', which cover the idealistic idea of the internet, which we have chosen to call *web-utopianism*:

- We are undergoing a revolution in online technology.
- In the network society, technological development will be maintained at least the current rate.
- In the network society, technological development will lead to freedom of data and ubiquitous user accessibility.
- This new freedom of data will lead to the end of all intellectual property rights and monopolies.

The web-utopians are at heart opponents of the monopoly that intellectual property rights has over knowledge and culture. As the below shows, not everyone rides this ideological wave.

The utopians believe that they, by presenting their vision of what will or could happen, can influence the path we choose in the present.

The utopians want to excite us about the future possibilities because they want policies that will keep the Internet an open field for bottom-up innovation.

The web-utopians point to the ways in which the Web has changed some of the basic assumptions about how we live together, removing old obstacles and enabling shiny new possibilities.

The utopians want the web to have wide effects as quickly as possible. They, therefore, favor connecting as many people as possible and maintaining the web as an open, public space.

Web-realists think change happens far more incrementally. They feel the inertial weight of existing institutions and social structures. Nothing as trivial as HTML will change the fact that most of the world is in poverty and that corrupt corporations are firmly in control.

The web-dystopian**s** agree that the web is having a major effect on our lives. They, however, think that effect is detrimental.

Source: David Weinberger, co-author of *The Cluetrain Manifesto* www.tinyurl.dk/8831

There has never been a time in our history when more of our 'culture' was as 'owned' as it is now. And yet there has never been a time when the concentration of power to control the uses of culture has been as unquestioningly accepted as it is now.
Lawrence Lessig, *Free Culture,* p. 12

Copywars

The fronts are currently drawn sharply in the fight between on the one hand, the patent- and copyright-based institutions, and on the other, diverse more-or-less organized anti-copyright movements. Groups and companies that are economically dependent on intellectual property rights try to enforce and tighten their legal rights, while the 'copyfighters' seek alternative ways, either through political influence or the development of easy, often illegal solutions for copying. A struggle that started in a semi-naïve grey area of uncertain legislation is now repeatedly taken all the way to the High Courts, where it often ends in harsh punishment and million-dollar fines.

One the one hand, access to knowledge and culture is becoming more closed. The time limits for how long copyright can be protected are regularly extended. Universities and other research institutions have traditionally stood for free, non-commercial sharing of knowledge for the common good, but in recent years, universities are increasingly required to take patents as part of their financing. On the other hand, through more-or-less idealistic motives,

free and open software, free books online, projects for gathering knowledge, free podcasts, and much else is created on a daily basis, which – along with piracy – challenges copyright-based business models.

The typical consumers are, mostly without realizing it, held hostage in this fight. If you follow the letter of the law, much normal use of the internet is illegal and could lead to serious lawsuits. It is easy to unknowingly view an illegally copied music video on YouTube or forward an article, which properly is protected by copyright. Simply saving a picture from the web is often against the law. Professor John Tehranian from Champan University School of Law has calculated that a typical active internet user *every day* makes copyright offences that could result in damage claims of more than 12 million dollars.[15] That this isn't an empty risk is shown by the case of the American housewife Jammie Thomas-Rasset, who in June 2009 was fined almost 2 million dollars for having copied just 24 songs.[16]

The future is open

Among present-day consumers there is a wish to take part in the process, a desire to be co-creator. The Copenhagen Institute for Futures Studies described this trend in our book *Creative Man* from 2004[17] and showed how this will result in a fusion between consumers and producers, who become *prosumers*. In other words, you can make money by letting the user contribute to the production of the product you make money on. The overall characteristic of this tend is that the producer releases control and co-determination, and that the individual and the typical consumer desires to have a finger in the pie at all levels of society, not just in production and consumption, but also in product development and politics. The recipe for success in anarconomy's logic is paradoxical: *In the future, you must give up control of your product to maintain control of your market.* Google is a prime example of this.

Giving up control is exactly what is happening in the US. President Barack Obama has hired a Minister of Information, Vivek Kundra. His primary agenda is to release all the documents and data from state archives, which all the previous administrations have held back as top secret or knowingly have made so complex to find that only the most motivated citizens could find what they needed. Vivek Kundra hopes that the release of the many documents and data will make the citizens use them to create new tools for the surveillance of health, epidemics, etc.

15 *John Tehranian: "Infringement Nation: Copyright Reform and the Law/Norm Gap", www.tinyurl.dk/8836*
16 *www.tinyurl.dk/8686*
17 *Can be downloaded free of cost at www.cifs.dk/cm*

CREATIVE COMMONS

Creative Commons defines the spectrum of possibilities between full copyright and the public domain. Their licenses aren't alternatives to copyright, but a development and graduation of the term. The idea behind Creative Commons is that not all creators of content necessarily want to enforce all the intellectual property rights the law gives them. Creative Commons thinks there's a need for an easy and trustworthy way to tell the world that 'some rights reserved' or even 'no rights reserved'. This is done with licenses that explain under what terms the content creator allows use of the content.

The purpose is to ensure the spread and use of knowledge and ideas without having the creators lose all control of the content, as would be the case if it were put in public domain. Creative Commons offers a range of simple, standardized tools that give artists, researchers and others the opportunity to –fully or in part – share their works with others. With a Creative Commons license, you can tailor your rights as you need and hence give the content users some freedom compared to normal copyright without having to make individual agreements. You can, for instance, require non-commercial use only, accreditation, and/or that the work can't be modified.

Creative Commons is also the name of the non-profit organization that is behind the development and spread of the licenses. Creative Commons was founded in 2001 by a number of experts in IT and intellectual property rights. Berkman Center for Internet & Society at Harvard Law School and Stanford Law School provided support and help under the start-up and during the project's early years. Structurally, Creative Commons consists of the Creative Commons Corporation, an American non-profit organization, and Creative Commons International, a British non-profit organization. In addition, there's a range of voluntary project groups in the countries (including Denmark) where the licenses have been translated.

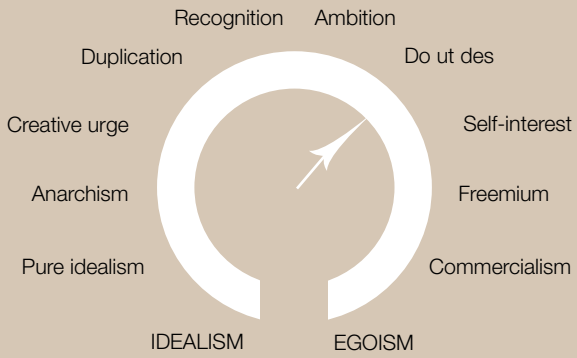
www.creativecommons.org
www.creativecommons.dk

MOTIVATION BAROMETER

Who creates the free content on the internet – open source software, Wikipedia articles, YouTube-videos, etc.? Since the content is free and there after all is some work associated with making it, you could easily be led to believe that idealists do it because they think it should be done. However, the motivation for contributing to the free content stretches widely from the purely idealistic to the purely egoistic. Even if the content as such is free, it is still often possible to make money from it, and there are also rewards of non-monetary sorts that still have real and clear value for the creator of free content. Here we try to look at what motivations could drive content providers. Reality is hardly so simple that content providers are driven by just one of the motivations below; mostly it will likely be from a mix of several motivations.

BETWEEN IDEALISM AND EGOISM

- *Pure idealism:* The desire to make the world a better place by making valuable content freely available for the less better off.
- *Anarchism*: The desire to irritate commercial companies by creating free alternatives to their products.
- *Creative urge:* The inner satisfaction of creating something alone or with others – as when people make paintings or sing in choirs without expecting payment.
- *Duplication*: You have made the content anyway in another context – it doesn't cost you to share it with others.
- *Recognition:* Achieving status in a community, or being able to brag about what you've done.
- *Ambition:* Training to become professional, hoping to get feedback, desire to be discovered.
- *Do ut des:* "I give that you may give" – the expectation of getting something in return
- *Self-interest:* You use open source or such yourself and see an advantage in improving it.
- *Freemium:* You give content away in the hope of selling something else.
- *Commercialism*: You make money from advertisement or sponsorships.



Roll out the guns: the pirates are coming

At the other end of the scale, we also find a political movement, which shows us that anarconomy is part of our society even now. In the election for the European Parliament in June 2009, two representatives of the Swedish Pirate's Party won seats in the European Parliament – interestingly enough just about a month before Sweden took over chairmanship of EU. The Pirate Party is unlikely to get much say in the policies for Sweden's six months in the hot seat, since the conviction of the four managers of Pirate Bay showed the gulf between the system, as it is mirrored in 2009 policies, and the young movement that the Pirate Party is a part of.

The Pirate Party isn't a purely Swedish thing; it has branches in many other countries around the world, such as Canada and Germany. In Germany, the party got almost 1 percent of the votes in the European Parliamentary election. The founder of the French Pirate Party, Rémy Cérésiani, has said that the movement's values are:

"Those of the digital generation that put freedom, privacy, sharing, and transmission of culture and science, the opening of public space, solidarity and democracy at the centre of its action. Our proposals are the flagship reform of copyright to allow universal access to culture through digital technology, the strengthening of direct democracy through the new tools made available via the Internet... We are also committed to the preservation of individual liberties threatened in both the digital and in everyday life." [18]

A large part of the struggle about the rights to art, patents and copyright is really about the right to control knowledge. It is about how both companies and consumers are trapped in the production cycle of the industrial logic. Put simply, anarconomy is the opportunity for changing the rules of the game and perhaps even turning the industrial logic on its head, so that you don't make money on selling your product, but on labour and marketing, where the expenses for a production company usually lies.

Carrot over stick

Penn State University has chosen to offer its students free access to Napster's entire catalogue of songs (which has been legal since 2005). In April 2008, TDC Denmark offered the service 'Play', which gave the customers free access to about one million songs. In both examples, the songs disappear from the computer or mobile phone as soon as the customer leaves the 'home sphere';

18 *www.tinyurl.dk/8832*

i.e., either leaves the university grounds or quits as customer at TDC. Several students at Penn State stated that they would keep using other file-sharing services so that they could keep the music. This shows that file sharing services aren't always used for direct economic reasons – functionality is also a factor.

Both examples also illustrate the recognition by the music industry that the business model of selling mass-produced music at high cost is eroding in the digital world. Instead an attempt is made to sell the music as a service in the shape of a subscription, rather than as individual products, in the hope that the customers will value (and pay for) easy access to a large library of music. The limitations that tie the music to a certain locality or platform is however a barrier for the success of this business model. As mentioned above: In the future, you must give up control of your product to maintain control of your market

"So here's the prosumption dilemma: A company that gives its customers free reign to hack risks cannibalizing its business model and losing control of its platform. A company that fights users soils its reputation and shuts out a potentially valuable source of innovation."
Don Tapscott and Anthony D. Williams, *Wikinomics*

Anarconomy on the agenda

Just as when the printing press and the telegraph were invented, the internet has changed the way we meet each other, invent business models, and seek new challenges and information. At the moment of writing, legislation and the moral hinterland are also in flux. When the American government trusts that everyman on the web will be interested in participating, and when a Pirate Party that only deals with online rights gets a seat in EU, we see that the thoughts and ideals of anarconomy have come to stay. Perhaps anarconomy is best expressed on the internet, but as the technological development opens new opportunities, the ideals will turn up on the screen, in politics, culture, society, and our everyday lives.

EVERY THIRD DANE WANTS FREE DOWNLOAD

According to a survey done by the Danish newspaper *MetroXpress*, 31 percent of Danes would like it to be possible to get music and movies for free on the internet, and that the movie and music industries must find other ways to make money.

Sanne Lund from political and economic studies at Aalborg University explains that many don't feel that downloading pirated music is a criminal act when friends and neighbors do the same. Some even feel they are cheating themselves if they don't get it for free. According to Lund, this attitude could change, just as the attitude to use seatbelts in cars changed after use was made mandatory.

The record companies are surprised that so many people feel that it should be legal, but the international corporations are aware of the trend. This has made companies like Virgin and Universal, for a monthly fee, to offer unlimited access to a wide range of songs.

Source: MetroXpress.dk

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- *Rémy Cérésian,i* www.tinyurl.dk/8832

List of concepts

Anarconomy: Term coined by the Copenhagen Institute for Futures Studies for when anarchic, creative networks and commercial companies mutually challenge and supplement each other

Anarchism: Political philosophy that seeks to organize society in interwoven networks without central authorities

Copyfight: The fight to get looser legislation for intellectual property rights

Copyleft: When you choose to set the rights to a work free, unlike *copyright*

Copyright: When the right to use an artistic or academic work lies with a single person or company

Creative Commons: Organization that develops and administers licenses that softens copyright

Digitalization: Representation of an object or product in the shape of (often binary) numbers, which makes precise reproduction possible with computers

Digital Rights Management (DRM): When the use of a work is sought limited by technical means to prevent piracy

Flash Firm: Term coined by the Copenhagen Institute for Futures Studies for a firm that is founded for a single project and discontinued once it is finished (derived from *flash mob*)

Freeconomics: Term coined by Chris Anderson in his book *The Long Tail* for how the growing, free abundance on the internet will drive future economy

Freemium: When you give the basic version of a product or service away in order to promote an expanded, commercial version

Intellectual Property Rights (IPR): The right to use immaterial valuables: patent, copyright, trademark

Moore's Law: Originally the observation that the density of transistors on a chip increase exponentially with time; now often used for the exponential increase in computer power in general

Open content: License by which the copyright for a work is opened for free use and development

Open source: License by which the copyright for software is opened for free use and development

Peer to Peer (P2P): The exchange of data, knowledge, products, and services between equal parts, rather than from a professional supplier to a customer (B2C)

Info boxes

Open source and open content 7
Intellectual property rights
and public domain 13
3D Printers 19
ZOPA.....29
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Motivation Barometer 40
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Public Domain: When no one has the intellectual property rights to a work, typically because the rights have expired

3D Printer: Device that produces physical objects by printing layer upon layer of various materials

Wiki: Website where anybody with a browser can create, maintain, and write documents in cooperation with others; e.g. Wikipedia

THE DRIVING FORCES BEHIND ANARCONOMY

KNOWLEDGE SOCIETY

Transparency

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EXECUTIVE SUMMARY

We are witnessing a powerful flowering of free content and services on the internet, created and distributed by the users themselves in voluntary networks by rather anarchic principles. This challenges and supplements commercial companies by offering non-commercial alternatives. This is *anarconomy*.

The key elements are that knowledge and ideas have fundamentally different characteristics from physical products and that the internet makes decentralized networks of anarchic character possible. *Open source*, *open content*, etc. will increasingly supplement and challenge commercial companies.

In this report the trend is put into a larger picture, and we seek into the driving forces behind anarconomy. We outline in two scenarios some extremes of current developments; one where the fronts in the future are sharply drawn between on the one hand the proponents for tighter rules regarding intellectual property rights, and on the other hand proponents for lighter rules; and one where the enforcement of intellectual property rights largely has been abandoned.